



OW Management Report for Hurricane Harvey and Hurricane Irma – September 17, 2017
EOC Water Desk

Hurricane Harvey Update (note: Hurricane Irma report starts on page 4)

Background:

Response and recovery efforts continue throughout the Gulf Coast of TX and LA. Rivers continue to recede in the region, however major record levels will persist through this week for several areas, including Houston and Beaumont.

Federal Activities:

FEMA has activated the NRCC at Level 1 with all Emergency Support Functions (ESFs) and deployed national and several regional Incident Management Assistance Teams (IMATs). FEMA's Region 6 RRCC is also at Level 1.

State Activities:

The TX SEOC remains at full activation, while the LA SEOC remains at Level III (24 hours).

EPA HQ:

Water Desk Staffing for the coming week is as follows:

Sunday 9/17: David Goldbloom-Helzner

Monday 9/18: Kevin Tingley

Tuesday 9/19 – Wednesday 9/20: Rich Weisman

Thursday 9/21: Kevin Tingley

Friday 9/22: Jenny Upton

Saturday 9/23: Jenny Upton

EPA Activities: Region 6:

Recovery Activities: The Governor of Texas sent a letter to Administrator Pruitt on September 8 about the use of State Revolving Funds (SRF) to fund immediate recovery and resilience efforts for the water, wastewater and stormwater infrastructure in Texas. The National Disaster Recover Framework (NDRF) has been activated. Also, Region 6 staff have been deployed to the Joint Field Office in Austin to address recovery of water and wastewater infrastructure and other recovery support functions.

EPA Region 6 responded to a September 1, 2017 letter from the Texas Water Development Board (TWDB) requesting flexibility in the use of State Revolving Fund (SRF) resources to address immediate recovery and future resiliency efforts. TWDB and EPA's Office of Water met on September 11, 2017 regarding SRF funding to address impacts. EPA Region 6 Acting RA responded on September 12, 2017, supporting flexibilities in the SRF program and committing to expedited



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reviews. A follow-up meeting was scheduled at the JFO September 13, 2017, with TWDB and FEMA public assistance to discuss SRF interim/bridge funding to impacted communities.

EPA provided by letter to the Texas Water Development Board about flexibility in using the State Revolving Loan Fund to address recovery and resiliency efforts. The NEPA review requirements may be required for final project approval and streamlining opportunities are being reviewed.

Private Domestic Drinking Water Wells Sampling Under ESF-8: EPA continues to make contact with the remaining 18 counties regarding private water well testing and our research indicates that private well testing is available across the state for a nominal fee. EPA has confirmed 21 of the 39 disaster declaration counties are currently providing private well testing for area residents. The Texas Department of State Health Services also offers bacteria testing for \$28 through the state lab. The Texas Commission on Environmental Quality (TCEQ) website provides public information and a list of NELAP Accredited Labs for well owners to analyze water samples for a fee.

Drinking Water / Wastewater Assessments

Drinking water and wastewater assessment teams completed their emergency assessments of community water systems and will demobilize today, September 15, 2017. Of the 2,022 systems designated for follow up, EPA's collaborative work with the state has ensured the return of 1,945 community water systems to fully operational status. These systems cover 99% of the population in the greater Houston area (7.23 out of 7.26 million served). The remaining system restorations and lifting of boil water notices oversight will be transitioned to the TCEQ regional offices.

The 3 tables below show the status of DW systems and the DW/WW assessments as of September 14, 2017.

Drinking Water and Waste Water Assessments (September 14, 2017)		
Assessment Types	Daily Assessments	Total Assessments
On-Site DW Assessments	51	625
On-Site WW Assessments	39	441
Phone DW Assessments	300	6754
Phone WW Assessments	27	4639



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Drinking Water: From TCEQ website as of 9/16/17. Updated information highlighted.

	Number of Drinking Water Systems	Population
Fully Operational	2,228	NA
Boil Water Notices	70	31,877
Shutdown	6	1,136

Wastewater and Sewage: From TCEQ website as of 9/16/17.

	Number of Wastewater Treatment Plants
Fully Operational	1,670
Inoperable	10
Operating with Issues	41

Note: maps showing status of drinking water and wastewater facilities have been removed from Region 6 reporting.



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Hurricane Irma Update

Background:

Post-Tropical Cyclone Irma lost its tropical characteristics and is now a Post-Tropical depression as it moves over the Tennessee Valley. Significant river flooding continues across the northern and western portions of the Florida Peninsula. Many basins have already crested with gradual recession expected for the next several days; however, slower responding basins will most likely crest either Thursday or Friday. Flood impacts likely to homes, business, and state county roads, especially in areas exceeding major flood stage. Most locations across the entire region should recede below Major Flood Stage by this Tuesday, 19 September.

Local/State Activities:

Puerto Rico and U.S. Virgin Islands

The Puerto Rico (PR) Emergency Operations Center and U.S. Virgin Islands (USVI) Territorial Emergency Management Agency (EMA) are at Full Activation. The respective Governors have declared states of emergency. The PR National Guard and USVI National Guard have been activated.

Florida

Florida is currently operating at their highest level of activation - Level 1, with the State Emergency Operations Center (SEOC) staffed by Division of Emergency Management personnel and all Emergency Support Functions. The EPA Region 4 continues to staff the SEOC in Tallahassee, Florida.

Georgia

The Georgia SEOC is currently operating at a Level 1 (full activation and fully staffed) activation. A State of Emergency remains in effect for all 159 counties. The State of Georgia ESF-3 Desk is responding to resource requests from drinking water and wastewater facilities and receiving reports of status at the same time. Georgia Rural Water Association (GRWA) is assisting the state in making calls to check assessment status. GAEPD regional offices are making calls to water facilities and reporting this information to the state ESF-3 desk. GAWARN (municipal mutual aid network for water and wastewater) and GRWA have both been assisting with fulfilling resource requests. No requests for federal assistance have been made for water and wastewater facility assessments or for temporary power supply.

Federal Activities:

FEMA Region II:

- Regional Response Coordination Center (RRCC) at Level I (Full Activation) day shift, Level II (Partial Activation) night shift with ESFs 3 and 15
- FEMA Region II IMAT in St. Croix, USVI
- FEMA Region X IMAT in PR



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- U.S. Virgin Islands:
 - o EOC at Full Activation, state of emergency declared, and National Guard activated
 - o Planning to establish JFO at the University of the Virgin Islands St. Thomas campus
- Puerto Rico: EOC at Level IV (Full Activation); state of emergency declared, and National Guard activated

FEMA Region IV:

- RRCC at Level I (Full Activation)
- HQ National Tribal Affairs Advisor on site at RIV RRCC supporting communications to four tribes outside of FL affected by Irma
- Region IV IMAT-1 at FL EOC and Region IV IMAT-2 at GA EOC
- Region IV Liaison Officers (LNOs) at FL, SC, GA, AL, and Seminole Tribe EOCs (1 each); LNO at NC has returned to Region IV
- Florida
 - o EOC at Level I (Full Activation)
 - o State of Emergency declared for 67 counties
 - o FEMA Initial Operating Facility (IOF) operational in Tallahassee
 - o Miccosukee Tribe: Two EOCs at Full Activation; shelters remain open with an unknown population; FEMA awaiting permission to perform damage assessments and assist with recovery efforts on tribal lands
- Seminole Tribe of Florida:
 - EOC at Full Activation (24/7, all ESFs)
 - FEMA Tribal Agreement for Emergency Declaration signed on September 14, 2017; DR request pending.
 - FEMA Tribal LNO, Operations, Logistics, and Communications teams on-site; ETA for Planner no later than September 15
- Alabama: Emergency Management Agency returned to normal daily operations as of September 14.
- Georgia: EOC at Level I (Full Activation)
- Mississippi: EOC returned to Operating Condition 3 (OPCON 3)
- North Carolina: EOC returned to Operating Condition 3 (OPCON 3)
- South Carolina: EOC returned to Operating Condition 3 (OPCON 3)
- Tennessee: EOC remains at Elevated activation



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EPA Activities:

Region 2:

Region 2 currently has 8 FEMA MA for pre-deployment planning, implementation, and deployment of personnel for damage assessments on St. Thomas, St. Croix and St. John in the USVI, and PR, including the islands of Vieques and Culebra. In PR, EPA continues to assist the local water and health departments in prioritizing drinking water facilities needs for Federal assistance. Two EPA teams are in PR conducting such assessments.

Region 4:

The EPA Region 4 Water Protection Division (WPD) received funding totaling \$75,000 under an ESF-3 MA sub-task to support the U.S. Army Corps of Engineers (USACE) drinking water and wastewater facility assessments. The WPD continues to coordinate with the Florida Department of Environmental Protection (FDEP) and the USACE. [More information is below under 'Drinking Water and Wastewater System Status – Florida'](#)

USEPA Region 4 Science and Ecological Support Divisions (SESD) Mobile Laboratory remains prepared to conduct the following analyses for drinking water if assistance is needed by Region 4 States. Analysis includes total coliform, E. coli, fecal coliform, and enterococcus. Contact has been made with the Seminole and Miccosukee Tribes in South Florida and EPA drinking water support and response capabilities were discussed.

Drinking Water and Wastewater System Status:

Region 2:

Puerto Rico Drinking Water Status: As of 10:30 am 9/17, PRASA is back to normal operations in providing drinking water services to the population. This does not include the non-PRASA systems which account for 4% of the PR population, but as explained below non-PRASA systems have not suffered serious damages.

PRASA: All PRASA waste water treatment plants are in service. CEPD continued inspections of Sanitary Pump Stations in PRASA's North Region on 9/14/2017 and the Culebra WWTP. Inspections performed indicated that there are no major issues at the facilities. The only remaining inspections are 5 pump stations in PRASA's East Region that will be conducted on 9/15/2017 and the Vieques WWTP which will be done next Tuesday.

PREPA: 94% of population with power, 99% expected by 9/15. All PREPA waste water treatment plants are in service.

Non-PRASA Drinking Water Status: CEPD and PRDOH contacted most of the non-PRASA systems between Tuesday and Wednesday. No major problems found. The systems without service were due to the lack of primary power. CEPD believes that there is no need to conduct assessments at the non-PRASA systems since there are no major problems encountered.



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Facility Assessment Team went to PRASA Bayamon Waste Water Treatment Plant on 09/16 to follow-up on a chlorine release that occurred at 0130 hours on 09/16. The team was notified of the release by the R2 REOC based on an NRC Hotline report. The incident was not related to Hurricane Irma damage. A regulator had a seal leak, the alarms sounded, and the facility personnel were able to remove the cylinder out of service. No injuries or exposures occurred. The amount of the release was estimated by facility personnel to be less than 5 pounds. This facility (FRS #: 110002151983) was assessed by PDA Team 2 on 09/12 and there was no impact from Hurricane Irma.

USVI Drinking Water Status: On 9/11 VIWAPA started operating the Reverse Osmosis plant in STT for WAPA distribution. WAPA previously used desalination but has switched to RO, run by Seven Seas. Boil water notice was issued for STT and STJ. The chlorination systems are fully functional. CEPD requested assistance from the OSCs stationed in STT to conduct assessments of drinking water providers.

USVI Wastewater: According to a report provided by Waste Management Authority, 6 of the 8 municipal wastewater treatment plants are in service. The only facility not in service is Vessup in Saint Thomas and the assessment of the George Simmonds WWTP has not been completed due to lack of access. In addition, WMA indicated that 4 of the 15 sanitary pump stations in Saint Thomas and Saint John are not in service. During a conversation held with DPNR on 9/12/2017, DPNR stated that they will request assistance from EPA to conduct assessments at the TPDES facilities in Saint Thomas and Saint John. On 9/13/2017, CEPD requested the OSCs deployed in St. Thomas to assess the wastewater treatment plants and pump stations in Saint Thomas and Saint John.

EPA discussed with the Virgin Islands Department of Planning and Natural Resource (DPNR) the drinking water station sampling to be done by EPA/DPNR personnel. The bacteriological lab on STT has obtained a generator and will be on line to accept drinking water samples for coliform analyses.

Region 4:

Florida:

Water Team Deployment

Water team continues to assist USACE and FL with assessing status of drinking water and wastewater systems while working from FDEP office. For 9/16/17 colocation has progressed on determining the correct operational status and resources needs of 82 facilities and reflecting that status/need in Storm Tracker. USACE and EPA will discuss with DEP the next phase of effort and most effective means to assess water and wastewater system that may include physical visits. Additionally, current data is being reviewed to determine areas that would benefit most by a deployed resource, most likely generators. Resource requests are entered into FlaWARN, but then require data entry into EM Constellation to produce a mission number (work order) this is causing a backlog. The Water team will work to reduce this backlog and perhaps continue call down efforts from a remote location. The Water team is also working to determine the process FL will use for portable (e.g. – trailer or skid mounted) water treatment systems potentially being brought into the state to provide emergency drinking water.



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Boil Water Notices (BWN) Boil water notice and/or advisories can be put in place by the drinking water systems themselves, or by the Florida Department of Environmental Protection/Florida Department of Health (FLDEP/FDOH). Florida Department of Health website (<http://www.floridahealth.gov/environmentalhealth/drinking-water/boil-water-notices.html>) publishes a listing of BWN, compiled from multiple sources, including press reports, utility data, and information from local authorities. Currently, the site lists 329 BWN issued since 09/11/2017, of which 40 have been rescinded, resulting in 289 active BWNs. While BWN may be issued for entire systems, most are issued for partial systems (blocks, subdivisions, etc) where population estimates are not available. As such reporting of populations affected is misleading at this time.

Water and Wastewater System Assessments: Water and wastewater facilities continue to submit their requests for assistance. The WPD compiled a status of community drinking water systems (CWS) and POTW that may be used during post storm damage assessment in Florida (see the two tables below).

Total Number of Community Drinking Water Systems (CWS) and Total Population Served in Florida				
	Large CWS (Over 3,300)		Small CWS (under 3,300)	
	# Systems	Population Served	# Systems	Population Served
Operational:	370	18,641,995	746	503,996
Partially Operational:	18	572,066	30	28,188
Non Operational:	1	30,545	136	29,924
Unknown:	7	40,888	333	148,595
Totals:	396	19,285,494	1,245	710,703
Boil Water Notices	281 (321 issued – 40 rescinded)			
Comments: Data is compiled from the State of Florida's StormTracker system. The inventory of public water systems in StormTracker consists of all 1,630 Community Water Systems (CWS) and 11 non-community public water systems regulated by the State. These facilities were identified by Florida as the most critical for operational status determinations following major disasters. For convenience, all 1,641 facilities are reported as "CWS" in this table.				
Operational: Facility producing drinking water for greater than 90% of customers under normal operating conditions				
Partially Operational: Facility producing drinking water under adverse conditions and/or supplying less than 90% of customers				
Non Operational: Facility not producing or supplying drinking water				
Unknown: Status of facility unknown at this time				



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Total Number of Publically Owned Wastewater Treatment Plants (POTWs) All Florida Counties			
	NPDES Permitted Facilities		State Permits (Non-NPDES)
	POTW	Non-POTW (Industrial)	
Operational:	128	153	733
Partially Operational:	5	4	56
Non Operational:	1	4	156
Unknown:	10	82	1,076
Totals:	144	243	2,021
<p>Comments: Data is compiled from the State of Florida's StormTracker system. The NPDES universe tracked in StormTracker represents a subset of the total inventory of NPDES permitted systems that are identified by the State of Florida as the most critical for operational status determinations following major disasters.</p> <p>This report shows that 89% of the POTWs are Operational, which is up from the last report which was 89%. This report shows that 63% of the Non-POTW NPDES Permitted Facilities tracked in StormTracker are Operational, up from the last report of 59%.</p> <p><i>Operational:</i> Facility & associated collection system is properly conveying, and effectively providing wastewater treatment, in accordance with applicable permit conditions and regulations. (Operating on full or backup generator power.)</p> <p><i>Partially Operational:</i> Facility and/or associated collection system is properly conveying and providing wastewater treatment at a compromised capacity, i.e. one or more treatment train components are non-operational, one or more lift stations are non-operational, etc.</p> <p><i>Non Operational:</i> Facility and/or associated collection system is not providing wastewater treatment in accordance with applicable permit conditions and regulations.</p> <p><i>Unknown:</i> Status of facility unknown at this time</p>			

Georgia:

Georgia is using central and district office staff and Rural Water Association to report on facility status, and provided the information below to EPA.

Total Number of Community Drinking Water Systems (CWS) and Total Population Served in Georgia		
	# Systems	Population Served
Operational:	186	6,398,721
Operational w/ Conditions:	8	53,917
Non Operational:	3	40,202
Unknown:	**	2,424,980
Totals:	1,749	8,917,820
Boil Water Notices	75 Boil Water Advisories reported to the SOC.	



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Comments: Data is compiled from data collected by Georgia EPD drinking water staff, EPD regional offices and the ESF-3 Water Desk at the Georgia SOC. The inventory of public water systems in Georgia consists of all 1,749 Community Water Systems (CWS). **EPD has provided status updates of all community water systems with surface water sources. All community water systems using ground water are being contact by EPD District Offices and associated resources requests are forwarded to the SOC ESF-3 desk. All community water systems using surface water as a source have been assessed.
Operational: Facility producing drinking water for greater than 90% of customers under normal operating conditions
Operational with Conditions: Facility producing drinking water under consumer advisory, e.g., boil water advisories issued by water systems.
Non Operational: Facility not producing or supplying drinking water

Federally Recognized Tribes:

SEMINOLE TRIBE OF FLORIDA (STOF)

STOF is executing their Emergency Fuel Plan that is used to keep their critical infrastructure powered (includes drinking water treatment).

• **MICCOSUKEE TRIBE**

No significant updates reported.

• **POARCH CREEK TRIBE**

No significant updates reported.

• **EASTERN BAND OF CHEROKEE INDIANS**

No significant updates reported.